

REMARKS

Claims 1, 2, 4-9, 21, 22, 25-29, 32-38, and 40-57 are pending in the application. Claims 30 and 31 are canceled by this amendment without prejudice. Claims 56 and 57 have been added. No claims are allowed.

Claim 29 has been amended to incorporate the limitations of canceled claim 31.

Claims 32, 44, and 48 have been amended to change their claim dependency from claim 31 to claim 29.

New claim 56 recites the spraying method of claim 28.

New claim 57 recites the limitation of claim 54.

No new matter has been added.

Claim Objections

Claims 29 and 30 have been objected to for allegedly reciting methods that produce a single layer while being dependent on claim 27 which recites a thin film of a multiplicity of particles in a three-dimensional close-packed orientation. The objection has been overcome by incorporating claim 31 into claim 29 to recite a second multiplicity of particles and canceling claim 30.

Claim Rejections – 35 U.S.C. § 112

Claims 52 and 54 have been rejected under 35 U.S.C. § 112, first paragraph as allegedly failing to comply with the enablement requirement. The Examiner stated that, according to the specification, the solution casting and slow evaporation method does not produce an acceptable film, but that the spraying method of claim 28 does.

As to claim 52, this is a product claim. It appears that the Examiner would withdraw the rejection if these claims were limited to the spraying process. This would make them product-by-process claims. However, a product-by-process claim is not limited to products made by the recited process. Reciting the spraying process in this claim would not actually change the scope of the claim.

“As long as the specification discloses at least one method for making and using the claimed invention that bears a reasonable correlation to the entire scope of the claim, the enablement requirement of 35 U.S.C.112 is satisfied.” MPEP 2164.01(b). Here, the

specification discloses that the spraying process is suitable for coupling agent-free particles. The fact that other methods exist that either fail to make the claimed product or that make the claimed product less than optimally does not bear on whether the specification teaches at least one method that does produce the claimed product. ("Failure to disclose other methods ... does not render a claim invalid." MPEP 2164.01(b)) The fact that other methods may be disclosed does not change the enablement analysis of product claims.

As to claim 54, this is a method claim. As stated above, the specification discloses the spraying method as a possible method of "depositing on a substrate ... a thin film of a multiplicity of particles in a three-dimensional close-packed orientation," as recited in claim 27 (claim 54 dependent thereon). The specification also discloses a solution casting method. Page 17, lines 9-11. The Examiner stated that this part of the specification teaches that this method does not produce an acceptable film. However, the specification actually says that the method "does not produce a thin film with reproducibility and acceptable uniformity." It does however, produce a film that is within the scope of "a thin film of a multiplicity of particles in a three-dimensional close-packed orientation," as recited in the claim. Even if such a film were unacceptable, "the presence of inoperative embodiments within the scope of a claim does not necessarily render a claim nonenabled." MPEP 2164.08(b).

Claim Rejections – 35 U.S.C. § 103

Claims 1, 2, 4, 6-9, 21, 22, 25-27, 29, 32-34, 37, 38, 40, 41, 43-45, 47-51, 53, and 55 have been rejected under 35 U.S.C § 103(a) as being allegedly unpatentable over Andres (*Science*) in view of Bethell (*J. Electroanal. Chem.*), Vossmeier (*Angew. Chem., Int. Ed.*), and Hostetler (*J. Am. Chem. Soc.*).

Vossmeier was published on 05/15/1997, which is less than one year before the 05/04/1998 filing date of the present application's direct parent application. As such, the reference is prior art only under § 102(a) and may be removed as prior art by a declaration under 37 C.F.R. § 1.131. The Examiner stated that any such declaration must show the layer by layer method as taught in Vossmeier. The attached declarations by the inventors include the laboratory notebook pages showing conception of the layer by layer method on 01/08/1997 and reduction to practice on 06/20/1997. The declaration also shows that reasonable diligence was exercised from 05/14/1997 (just before the publication of Vossmeier) until 06/20/1997 to reduce

the invention to practice. All of inventor Snow's work during this period was related to encapsulated clusters. Thus, all the work was either on the presently claimed invention or closely related to it. "Under some circumstances an inventor should also be able to rely on work on closely related inventions as support for diligence toward the reduction to practice of an invention in issue." *Ginos v. Nedelec*, 220 U.S.P.Q. 831, 836 (Bd. Pet. Int. 1983). Vossmeier should be removed as prior art under § 102(a).

Claims 27, 29, 32, 43-45, 48, and 55 have been rejected under 35 U.S.C § 103(a) as being allegedly unpatentable over Andres in view of Bethell, Vossmeier, and Hostetler, and further in view of Terrill.

As explained above, Vossmeier should be removed as prior art under § 102(a).

Claims 2, 4, 6, and 22 have been rejected under 35 U.S.C § 103(a) as being allegedly unpatentable over Andres in view of Bethell, Vossmeier, and Hostetler, and further in view of Natan (US 5,609,907).

As explained above, Vossmeier should be removed as prior art under § 102(a).

Claims 37, 38, 40, and 50 have been rejected under 35 U.S.C § 103(a) as being allegedly unpatentable over Andres in view of Bethell, Vossmeier, and Hostetler, and further in view of Okahata (*Supramolec. Sci.*) or Weisbecker (*Langmuir*).

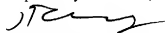
As explained above, Vossmeier should be removed as prior art under § 102(a).

In view of the foregoing, it is submitted that the application is now in condition for allowance.

In the event that a fee is required, please charge the fee to Deposit Account No. 50-0281,

and in the event that there is a credit due, please credit Deposit Account No. 50-0281.

Respectfully submitted,



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